

CLAIMS:

1. A domain expansion storage medium in which a magnetic wall is displaced to thereby enlarge a magnetic domain in a readout layer so as to reproduce an information indicated by a magnetic domain in a storage layer, wherein a substrate of said storage medium has a locally modified surface structure or said storage layer has a locally modified magnetic property, arranged to define a predetermined shape of said magnetic domain, said predetermined shape having a curvature adapted to a predetermined thermal reading profile.
2. A storage medium according to claim 1, wherein said magnetic domain has a crescent shape reversed with respect to a rotation direction of said storage medium, the curvature of the concave edge of said crescent shape substantially matching with the facing curvature of said predetermined thermal reading profile.
3. A medium according to claim 1 or 2, wherein said substrate has an injection moulded format.
4. A storage medium according to any one of the preceding claims, wherein said storage medium is a MAMMOS disc or a DWDD disc.
5. A method of manufacturing a domain expansion storage medium, in which a magnetic wall is displaced to thereby enlarge a magnetic domain in a readout layer so as to reproduce an information indicated by a magnetic domain in a storage layer, said method comprising the step of locally processing the surface structure of a substrate of said storage medium or the magnetic properties of said storage layer so as to define a predetermined shape of said magnetic domain, said predetermined shape having a curvature adapted to a predetermined thermal reading profile.
6. A method according to claim 5, wherein said magnetic domain is defined with a crescent shape reversed with respect to a rotation direction of said storage medium, so that

the curvature of the concave edge of said crescent shape substantially matches with the facing curvature of said thermal reading profile.

7. A method according to claim 5 or 6, wherein the surface structure of said
5 substrate is processed in said processing step.

8. A method according to any one of claims 5 to 7, wherein said substrate is
processed by an electron beam recording method or a recording method adapted to induce a
localized difference in said magnetic properties.

10

9. A method according to any one of claims 5 to 7, wherein said substrate is
processed by using a stamper obtained from an injection moulded master substrate.

10. A method according to claim 9, wherein said master substrate is mastered by
15 an e-beam recording method.